

Abstract of the Disclosure

A control solenoid and valve includes a valve body having a magnetic assembly, hydraulic assembly, and a pressure regulation member. The magnetic assembly and pressure regulation member are formed respectively on offset axes preferably substantially parallel to one another. The hydraulic assembly exchanges forces created by the magnetic assembly and pressure regulation member. This design accomplishes a more compact arrangement. The pressure regulation member includes longitudinal cavity within the valve body situated on its corresponding axis. Within this cavity, a spool valve reciprocates relative to fluid pressure interacting with the spool valve and forces generated by the magnetic assembly. To accurately sense pressure of the fluid within this cavity and acting on the spool valve, a pressure sensor is positioned at an end of the longitudinal cavity bounded by an end of the spool valve. Thus, the pressure sensor is positioned away from fluid vortexes caused by reciprocating movement of the spool valve, and as a result, senses pressure with a high degree of accuracy.